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Road to sustainability in the short-let industry: The Guest Ready case

How can the short-let industry become more sustainable? Specifically, what is the environmental
(CO₂) and financial impact of replacing small plastic amenities, cleaning products and
conventional energy with greener alternatives?

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Abstract

Small hospitality companies' transition to sustainability has been little studied. This qualitative and quantitative analysis of a short-let start-up explores the question: How can the short-let industry become more sustainable? What is the environmental (CO₂) and financial impact of replacing small plastic amenities, cleaning products and conventional energy with greener alternatives? It concludes that if it overcomes barriers typical of smaller companies' focus on profitability and finds a business model that monetises the impact of embarking on the sustainability trend, cost reductions due to adopting environment-friendly products can lead to an enhanced financial performance and to clear environmental benefits.

Key Words: Corporate Sustainability, Sustainable Development, Hospitality and Tourism, Carbon Footprint

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1. Introduction

During the last quarter of a century, the growing importance of sustainability and sustainable development drove companies to transition to more environment-friendly models and practices. At the same time, tourism became the world's largest service industry, accounting for ca. 5% of global GDP, with a predicted carbon footprint of up to 15% by 2030 (Calderon Hinojosa, F. 2020). Within the tourism industry, short let companies deserve special attention due to its popularity and limited carbon footprint when compared to hotels.

While hospitality companies admit to the benefits of “going green” (Sloan et al. 2013), smaller companies face a unique set of obstacles, given limited time and access to resources and operational incompatibilities within growth strategy. This research Work Project intends to contribute to the academic literature on less studied small hospitality companies. It analyses one particular short let start-up in its journey to sustainability, in order to answer the question: *How can the short-let industry become more sustainable? Specifically, what is the environmental (CO₂) and financial impact of replacing small plastic amenities, cleaning products and conventional energy with greener alternatives?*

Guest Ready (GR), an international start-up, now European leader of Airbnb properties management, approached the author of this dissertation to conduct a study on the environmental impact of replacing suppliers and/or products for greener alternatives. This direct research Work Project's evolved from that invitation, from a purely quantitative analysis into a more complex research project that combines both quantitative and qualitative data. Its methodology relies on access to GR's qualitative and quantitative data (through personal interviews). While the combination of qualitative and quantitative research is very important for an overarching assessment of any organisation, the present study is naturally limited by time and space

requirements. The choice of the UK as sample market and the focus on the most important element in GR's services' value chain sought to respond to such limitations.

This research concludes that if GR overcomes barriers typical of smaller companies' focus on profitability and finds a business model that monetises the impact achieved by embarking on the sustainability trend, cost reductions due to adopting environment-friendly products can lead to an enhanced financial performance and to clear environmental benefits.

2. Literature Review

2.1. Corporate Sustainability: reinventing the role of business in society

2.1.1 The Sustainable Shift: sustainability and its impact on businesses

In 1987, the World Commission on Environment and Development defined “sustainable development” as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” and inaugural UN action plans and strategies for a more sustainable pattern of development were launched.¹

A decade later, the proposal of a framework such as the Triple Bottom Line demonstrates how mainstream “sustainability” had become as a concept, as well as the need of helping organisations measure their success on social and environmental categories (in addition to economic categories) (Elkington, 1997).

More recently, a review of trends in corporate sustainability strategy reveals a meaningful shift – from institutions to the consumer – in the initiative behind sustainability: “sustainability efforts

¹ Member states set the target of reducing CO2 emissions by 50% until 2050 and 100% until 2100 (Unfccc.int, 2015).

have evolved into a complex and disciplined business imperative focused on customer and stakeholder requirements” (Ernst & Young and GreenBiz, 2012).

New laws and regulations on environmental and social issues, e.g. the Paris agreement signed by 195 countries, increased shareholder awareness of the importance of ethical investments regarding the shortage of vital natural resources. This helps to explain why many business leaders have been developing sustainability plans and programs as evermore important elements in their corporate strategies (Climate Action-European Commission, 2020).

Moreover, different works have shown the existence of a positive relationship between environmental and organisational capabilities such as innovation, employee involvement and integration of multiple stakeholders’ concerns (Aragon-Correa, J., 2015). According to some authors, environmental-friendliness lowers costs by reducing inputs and generating additional revenues from better products and supply chain and risk management optimization. It also pushes companies to treat sustainability as “innovation’s new frontier” (Nidumolu, Prahalad & Rangaswami, 2009, p. 4).

Limitations of time, lack of resources (including expertise), poor customer awareness and/or poorly expressed demand, suppliers’ business practices, and a sense of responsibility still felt as “vague” obstruct some companies’ transition towards sustainable strategies (Vernon et al. 2013).

In particular, many companies fear the nonexistence of immediate financial benefits associated with a more sustainable model (Nidumolu, Prahalad, & Rangaswami, 2009). In other words, some executives still behave as if they had to choose between what they perceive as social benefits of developing sustainable practices and the financial costs they attribute to sustainability.

In fact, the most researched question in this context of organisations’ management and environmental protection is: “Does it pay to be green?” (Flammer, 2013; Russo and Fouts, 1997).

Aragon-Correa recognises that a proactive environmental strategy requires endeavours that anticipate and surpass legislative requirements (Aragon-Correa, 1998). Even so, a recent meta-analysis on this topic concluded that research has generally found a positive relationship between environmental management and financial performance. Still, this relationship is subject to a number of varying factors (Albertini, 2014).

While the level of awareness concerning the need for environmental sustainability is high, the connection between actual operational business performance and environmental practice is less understood. Gutiérrez-Martínez and Francois clarify it by identifying the following contributions of a sustainable business approach to performance: i) competitiveness and differentiation generated by a response to stakeholders' pressure; ii) costs reduction; iii) customer and employee motivation; iv) better reputation. Indeed, these researchers argue that these factors are simultaneously cause and consequence of companies' transition to sustainability (Gutiérrez-Martínez and Duhamel, 2019).

2.1.2 Sustainability in the hospitality industry

The concept of sustainable tourism development applies the balanced economic, social and cultural approach to growth and to the environment more broadly found in the above definition of “sustainable development” (UNEP, 1994). Nevertheless, tourism's volume and expected exponential growth and environmental impact demands particular action (Aragon-Correa, J. et al., 2015).

According to Esty & Winston (2009), tourism business operations are valuing sustainability more because i) they are threatened by the limits of natural resources; and ii) stakeholders are demanding corporate compliance with certain environmental standards (Esty & Winston, 2009).

Before the Covid-19 pandemic, international tourism arrivals were expected to reach 1.6 billion in 2020 (UNWTO 2020). This boom in travel and hospitality during the last quarter of a century has given rise to millions of new jobs and economic prosperity the world over. As the world's largest service industry and with an annual growth rate of 4%, tourism accounts for ca. 5% of global GDP and can reach 15% in annual carbon footprint responsibility by 2030 (Calderon Hinojosa, F. 2020). Indeed, according to the calculations of the U.S.A.'s Environmental Protection Agency, a single night's stay in a hotel can generate on average 29.53 kg of CO₂. Equally, per guest and per night, the production of 1 kg of waste and the usage of 170 to 440 litres of water occurs.

Hotels need to manage their business with an economic concern while simultaneously building competitive advantages through external concerns such as sustainability. International hospitality companies and small businesses alike recognize that there are tangible benefits in doing so, including efficiency gains and improved corporate reputation (Sloan et al. 2013). Marriott International is a good example of business sustainability: it boasts staff diversity, community involvement and anti-corruption policies as well as CO₂ footprint reduction, ecological building certification and a "reduce, reuse and recycle" program. With a different approach, Hilton's Scandic creates a 95% biodegradable room, charging a 10% higher room rate.

2.1.3 Journey to Sustainability

A literature review suggests that companies transitioning to more sustainable business models and practices often go through stages, from simple steps towards more complex and potentially rewarding approaches (Hoffman & Bansal, 2012). This seems to hold true for the hospitality industry as well. While the nature and number of stages differ, nearly all hotels first engage with sustainability via legal compliance (or voluntary compliance with anticipated regulations) with the aim of saving costs, managing economic risks and opportunities, and increasing shareholder value.

Once hotels have learnt to manage risks and efficiencies through compliance, many of them evolve and engage in social activities such as charity projects and community projects that reflect eco-friendly values.

The journey towards sustainability and the reshaping of a company entails, therefore, different stages that combine internal change with revised external perceptions. Eccles, Perkins and Serafeim defend that a company committed to sustainability needs: i) leadership commitment; ii) engagement with multiple external stakeholders; iii) employee engagement; and iv) an execution mechanism (Eccles, Perkins, & Serafeim, 2012).

Nidumolu also describes the adoption of 5 steps in the journey to sustainability. His work focuses on the advantages of “treating sustainability as a goal and a focus on growth strategy” and moving swiftly, pointing to the necessary development of capabilities to tackle each step’s challenges (Nidumolu, Prahalad, & Rangaswami, 2009, p. 3).

Mapping the road ahead will save companies critical time. Companies may view the pressure to comply with law enforcement as an opportunity for innovation and benefit from early adopters’ advantages. In this sense, the ability to anticipate and influence regulations and work with other companies to implement creative solutions is vital. Afterwards, the involvement of the entire value chain in the journey to sustainability, namely suppliers, increases efficiencies. Incentives may be a fruitful way of achieving this goal. Then, the actual design of sustainable products and refusal of previous environment-unfriendly practices will respond to consumer concerns. Naturally, these changes must be accompanied by a continuous assessment of their impact on business that allows for the design of constantly evolving efficient and sustainable practices (Nidumolu, Prahalad, & Rangaswami, 2009).

3. Short let management and Guest Ready

Travelers are becoming more dependent on vacation rentals and platforms like Airbnb, what leads to the listing of more properties. Airbnb, founded in 2008, accounted for 160 million of guests and reached 3 million homes in 2017 (more than the combined number of rooms of the three largest hotel chains) (Airbnb, 2017 Report). Simultaneously, travellers now demand more eco-friendly properties, in a shift from the previously usual preferences of price plus location alone. Actually, when considering booking.com, 82% of travellers consider sustainability when choosing accommodation (Booking.com, 2019 Sustainable Travel Report). This means that making properties greener can potentially help hosts to earn more profits (Fox, L., 2020).

The short-rental industry is characterized by a much smaller carbon footprint than hotels due to the 24/7 nature of properties. At the same time, as these units are usually individuals' homes, they are better equipped, which reflects on energy and water conservation. Based on a model provided by the Cleantech Group, in 2016, energy savings achieved in Europe by the choice of an Airbnb property instead of a hotel were equivalent to 566,000 homes; water usage reduction equalled 9,000 Olympic-sized swimming pools; waste reduction could reach 81,200 tons; and reduced greenhouse gas emissions were equivalent to 1.6 million cars (Airbnb, 2017 Report). These benefits of short-term rentals are negatively affected by their dispersion (services such as recycling, and housekeeping are not centralized), which can make eco-conscious operations very difficult (Menze, J., 2020).

Embarking on this trend, GR was designed to help landlords turn their investments into a profitable source of income. Founded in late 2016, GR is a short-term rental management company whose objective is to become Europe's leading short let and Airbnb property manager by bringing the tradition of hospitality to the short-let market and helping hosts meet guests' expectations of hotel-

level quality amenities and personal services. It is now the European market leader in Airbnb Management. GR's services include yield management, listing creation, check-in, guest vetting, guest communication, key management, housekeeping, laundry and maintenance.

As an international company, working as one team based in different countries, GR prizes collaboration. At the same time, excellence, proactivity, passion, ambition and competition are at the core of the company's values. Operating in London, Edinburgh, Manchester, Paris, Cannes, Lisbon, Porto, Dubai, Kuala Lumpur and Hong Kong and delivering outstanding services to both hosts and guests, GR helped more than 85k guests and contributed for the attribution of "super host" status to 320 hosts. When looking at the UK market, GR has 535 properties available, with an average occupancy of 65%. GR manages accounts with 3650 properties, 2,600 hosts, 80% of average capacity and ca 400k nights booked, with an average 4.6/5 guest rating.

While larger companies have introduced comprehensive programs to tackle a whole range of environmental issues, smaller hospitality enterprises have been slow to react to the need for change. However, the latter are more responsive to value chain, internal and even regulation pressure (A. O'Neill et al. 2009 and Darnall et al. 2010). The adoption of green practices appears to be more complex for small companies due to limited access of resources, operational incompatibilities within growth strategy and the time-consuming nature of necessary changes.

GR's vision is manifested in the expression: "to unlock the full potential of real estate through innovative solutions worldwide". Being a start-up in early growth stages in a competitive market, GR should indeed, according to the literature, benefit from its innovative strategy, setting trends and enjoying first movers' advantage. In order for this to happen, and again according to the literature above reviewed, GR will need to overcome existent barriers – especially those exclusive

to smaller operators – and meet stakeholders' predictably growing demands for greener practices, which will in turn lead to a set of advantages and challenges.

4. Methodology

Access to information was essential in the development of this case study regarding the journey to sustainability in the short-let industry. This direct research Work Project's methodology relies on access to GR's qualitative and quantitative data. The author of this dissertation participated in a 3-month internship at GR, of which the first month was devoted to data gathering and qualitative understanding through the conduction of six interviews to GR's staff. Afterwards, a permanent placement with the company's finance team allowed access to quantitative data for the UK market. In order to ensure the thoroughness of the analysis of GR's journey to sustainability, this dissertation presents it divided into 3 main areas of intervention adapted from existing academic literature (namely Eccles, Perkins, & Serafeim, 2012 and Nidumolu, Prahalad, & Rangaswami, 2009): Corporate mindset; Market responsiveness; and Environmental and financial impact. The designation "areas of intervention", used here instead of the most common designation "steps", was chosen because it more accurately describes how such a process is taking place at GR. In fact, being a start-up facing the limitations of smaller companies previously described, with a small team, horizontal and democratic organisational culture, GR is not moving towards sustainability in neatly ordered steps but through an organic and simultaneous process.

The first section of this research focuses on a qualitative approach, using information obtained through semi-structured face-to-face interviews with employees. All interviews were recorded and subsequently transcribed. The qualitative data extracted from the interviews were used to describe GR's 2 areas of intervention in the journey to sustainability: corporate mindset and market

responsiveness. The second section focuses on a quantitative approach, using information about the UK market made available by GR to facilitate the financial and environmental impact assessment needed to address GR's third area of intervention in the journey to sustainability.

While the qualitative research offers a detailed view through the first 2 areas of intervention, actual calculations were used to study the role of amenities, cleaning products and energy, as these are the main ecological concerns for GR. Suppliers and products on offer play a significant role in GR's carbon footprint (translated here into CO₂ savings, according to standard practices) so measuring and evaluating alternatives is particularly relevant.

While the combination of qualitative and quantitative research in this dissertation is very important for an overarching assessment of any organisation, the present study is naturally limited by time and space requirements. The choice of the UK as sample market and the focus on the most important element in GR's services' value chain, both explained above, sought to respond to such limitations while making possible the hybrid approach (qualitative and quantitative) this dissertation proposes to analyse companies in their journeys to sustainability.

5. Guest Ready's journey to sustainability

5.1 Areas of intervention and implementation of sustainability

Area of intervention I: Corporate mindset

Multiple interviews with GR's employees reveal that profitability is GR's main focus. In the words of Martin Darras, "sustainability has to be perceived as profitable" (Martin Darras, Global Operations. Personal Interview). However, GR's employees are aware of the growing need to embrace sustainable practices. Pressure from stakeholders and customers has played, contrary to what the literature would suggest, a limited role in this awareness. In fact, as John Severino

explains, “some clients or partners raised the issue, although not on a big percentage” (John Severino, Account Manager. Personal Interview). (Annex 1)

Given GR’s reliance on technology to communicate with hosts and guests, initiatives such as a paper-free office respond perhaps more to a need to appear or feel eco-friendly than to an actual transition to sustainability. The team expresses the view (discussed above) that a bet on sustainability is more easily taken on by large, already profitable companies. In Nathan’s Busuttil opinion, larger hotels “benefits from economies of scale and larger investments ability” (Nathan Busuttil, Account Manager. Personal Interview).

Moreover, there seems to be a prevailing belief among GR’s employees that their reliance on suppliers eliminates the possibility of GR transitioning to sustainable practices. Larisa Maxim admits that “Suppliers are chosen based on cheapest price (...) and sometimes are not the best for the planet” yet sees no alternative to this way of managing the selection process that does not hinder the company’s profitability (Larisa Maxim, Cleaning Services. Personal Interview).

Having said that, GR’s leadership’s invitation to the author of this dissertation reveals an important commitment to sustainability. GR’s team is still relatively small, which means that the leaders’ power to influence employees’ perceptions of the costs and benefits of sustainability is considerable. The democratic nature of communication and a horizontal structure may also facilitate the adoption of a new mentality on the part GR’s employees. In order to engage employees to adopt sustainable strategies, employee development activities can act as means to enhance the skills and competencies needed to create social, eco-friendly and profitable solutions (Renwick et al. 2013).

Area of intervention 2: Market responsiveness

External pressures and demands from different levels result in natural tensions between suppliers and stakeholders. A two-way communication, ensuring transparency and trust is crucial to integrate them and allow innovation to occur (Nidumolu, Prahalad, & Rangaswami, 2009). Bruns-Smith et al.'s research also stresses the importance of customers as drivers for change in the hospitality industry, while alerting to the threats sustainable practices may pose to "guest satisfaction". (Bruns-Smith et al. 2015). Converting both guests and hosts into partners in its journey to sustainability is, hence, an essential step for GR.

Turning hosts and guests to partners in the journey to sustainability poses challenges and presents opportunities, as suggested by Nidomulu. The main challenges rely on the financial aspects of the relationship with guests and hosts, and specifically on whether travellers should be charged more when offered sustainable accommodation options. As pointed out in the literature review, preferences are shifting and sustainability is becoming more important in guests' decisions (Skift Research's U.S. Experiential Traveller Survey, 2019). Bruns-Smith et al. found that guests are "concerned" about their environmental impact and are actually willing to pay more for green options. However, price, convenience and location are still the main factors for travellers when choosing accommodation (Bruns-Smith et al. 2015). (Annex 2).

There is no consensus among GR's employees regarding the possibility of charging neither guests nor hosts more if the company were to adopt a sustainable model. Including among those who believe that extra fees can be charged, there is disagreement about whether the guest or the host should bear the financial burden associated with sustainability. Even if there were a consensus, the question of how much to charge to whom would remain. Martin Darras believes that "the right balance between GR [us], the guest and the host" should be achieved splitting responsibility"

(Martin Darras, Global Operations. Personal Interview). The marketing and sales speech behind it would, in this case, be fundamental. John Severino suggested that an extra “2%” fee could be charged due to differentiation offer (John Severino, Account Manager. Personal Interview). Ryan Chow opposes a mandatory extra fee. In his opinion, guests would value the available alternatives, but it might make no sense to “force” them to pay for them (Ryan Chow, Operations. Personal Interview).

Testing these alternatives is crucial to understand guests’ awareness of the need for sustainable hospitality practices and willingness to book eco-friendly properties and / or pay more for them. Guests’ “feedback and reviews” can be analysed alongside “increased number of bookings” in order to measure the impact of sustainability for GR (Ryan Chow, Operations. Personal Interview). According to Skift’s U.S. Experiential Traveler Survey 2019, a slight majority of respondents (53%) stated they were willing to pay higher rates to stay in a place that was committed to environmental responsibility. Among millennials, this figure can achieve 73% (Giuseppe Pinna, 2019). In this scenario, and aiming at combining profitability with sustainability, GR must identify those segments of customers that are willing to pay for environment-friendly properties. A strong communication of benefits is essential to maximize value perception and to achieve environmental efficiency (Reinhardt, 1999).

In what concerns hosts, GR’s Finance Manager believes that sustainability could be a differentiating factor, “(...) not only in terms of revenue but in terms of increasing demand and supply; more hosts that would prefer a more sustainable option would like to host with GR (...)” (Vansh Arora, Finance. Personal Interview). In this case, there would be no need for incremental payment to GR, as profits would increase through the increased number of reservations.

The debate on the cost efficiency of sustainability taking place at GR is typical of smaller hospitality companies in their transition to sustainability, as mentioned before, as well as the main focus of research on the topic. This is significant and seems to oppose the view expressed by managers in the industry that “reputation (and not potential reduction of costs) is the main incentive for their proactive environmental approaches” (Aragon-Correa, 2015).

The author of this dissertation believes that this uncertainty as to how to manage sustainability from a financial perspective is natural, given the gradual nature of any transition to sustainability described by researchers. More importantly, the fact that this debate is taking place within the company is a positive sign of engagement and commitment to both profitability and sustainability. The engagement of suppliers is also essential in this context. For GR, the engagement of suppliers matters, as it outsources the majority of its products and wants to maximize operational efficiency while reducing costs. “We have to go down the chain to our suppliers; if they are willing to do it [be more eco-friendly] it would be easier” (Nathan Busuttil, Account Manager, Personal Interview).

As mentioned before, GR relies on suppliers' offers of amenities, cleaning products and energy. On the road to an environment-friendly operational process, these products' impact on carbon emissions is crucial in the evaluation of greener alternatives and deserves particular attention.

(Annex 3)

I. Guests value amenities and their functionality as top priorities when choosing an accommodation. However, whether thrown or given away, it is estimated that hotels worldwide dispose of more than 10 billion partly used individually packaged bars of soap and bottles of liquids every year. On average, each bar of soap and each bottle of liquid becomes waste when only 15%

used. This is why hospitality groups such as Marriot and Intercontinental announced that they will replace small plastic amenities for bulk dispensers, in a move affecting nearly 850k hotel rooms. Bulk liquids are no longer associated with poor quality, while plastic continues to be associated with fake luxury. Luxurious, scented liquids formulated with natural ingredients that are totally biodegradable and safe to the environment are available in bulk. With bulk liquids in a dispenser, companies only pay for what guests actually use. Plus, bulk containers save on storage space, housekeeping time, waste management and order processing (Giles, 2020). Bulk liquids pose, according to GR's staff, two main problems: storage and distribution during cleaning operations. While John Severino believes that a good organisation with the supplier could address both (John Severino, Account Manager, Personal Interview), individual biodegradable packaged amenities, though more expensive, would be the most feasible solution in Ryan Chow's opinion (Ryan Chow, Operations. Personal Interview).

II. Green cleaning products have benefits for human beings and for the environment due to the absence of toxic chemicals. Cost effectiveness is also important, as commercial cleaning products are normally expensive and environment-friendly options can be bought in bulk. At the same time, the majority of supermarkets now stocks a range of certified eco-friendly products.

These eco-friendly products could be offered to hosts in exchange for a monthly fee. Larisa Maxim, from GR's Cleaning Services, believes that "some of the hosts will be happy to pay" for such products, if GR supplies their replacement service (Larisa Maxim, Cleaning Services. Personal Interview). Some of GR's hosts already prefer to buy cleaning products from GR, so the change to eco-friendly products could be seamless and the process extended to all of GR's hosts.

III. Switching to green energy is one of the quickest and most impactful measures to reduce carbon air pollution. Green energy tariffs are becoming more competitive due to the rise of public interest

in the renewable energy sector. The percentage of people in favour of using renewable energy in the UK rose to 85% in 2018, as reported by the Department of Energy and Climate Change. Replacing old light bulbs with LED light bulbs will also save electricity. They are not only better for the environment; they are cheaper because they have a longer lifespan. Finally, appliances with energy star ratings ensure energy efficiency.

Innovation Lighthouse is testing sustainability solutions in three hotel rooms in Amsterdam. With this, they are trying to understand which solutions really work to make hotel stays more sustainable. The goal is to measure the actual environmental, social and economic impacts of energy savings, water savings, waste reduction and CO₂ emissions offset in terms of payback time, return on investment and global response and experience.

GR appears ready to embrace new energy options within the limits of profitability. In the words of Vansh Arora: “if we can’t decrease costs but [can] keep them, this is something we should explore” (Vansh Arora, Finance, Personal Interview).

Area of intervention 3: Environmental and financial impact

The existing gap between the recognition of impact and the actual actions is an important barrier to GR’s sustainable journey. Not every benefit and / or cost is easily measurable, such as the cost of installing a dispenser, buying LED light bulbs or changing to greener cleaning products. Employee motivation and time invested in sustainable management are also quite difficult to assess, as are benefits derived sustainability-related marketing.

Measuring and reporting on sustainable alternatives is essential to increase sustainability awareness with investors and customers, to improve transparency and data accuracy and to enhance brand reputation. Vansh Arora considers that GR would benefit from a “unit cost analysis

on sustainability” – never before conducted – in order to ponder sustainability without losing the focus on profitability. (Vansh Arora, Finance. Personal Interview).

GR’s main direct costs relate to the cleaning and maintenance of properties. Guests pay a cleaning fee that includes housekeeping staff; linen and amenities. Hosts cover the costs of cleaning products and energy. GR’s concern with profitability means that it must understand whether it can reduce direct costs by using eco-friendly products while charging equal or even higher cleaning fees. Please note that the environmental impact of amenities and cleaning products is due to two different aspects: packaging and liquid composition. This analysis focuses on packaging only, since i) data is more easily available for packaging than for liquid composition; and ii) intervening in packaging is a simpler and more immediate measure for GR to take in its transition to sustainability. GR’s decision of adopting more sustainable practices will, therefore, rely on an assessment of the actual financial and environmental impact of replacing amenities, cleaning products and energy for greener alternatives.

I. Individual packaging waste entails costs that can be cut, as companies pay for unused products that are often thrown away. It is estimated that over 10 billion partly used (15%, on average) individually packaged bottles of liquids are thrown away worldwide every year (Giles, 2020).

Using dispensers would reduce both financial costs and the amount of plastic used. Plus, bulk soap is cheaper. Groupe GM studied the environmental and financial impact per guest and shared its findings with the author of this dissertation. In 2019, GR UK managed 535 properties operating at a 65% occupancy rate over 12 months. Applying Groupe GM’s figures to GR’s 2019 reality, we conclude that guests use less than one bottle per night per property depending on the amenity and considering an average of 1.4 bathrooms and 2.9 guests per property. Assuming 1 pack of toiletries per guest, guests use 128 833 bottles of shampoo and 147 237 bottles of shower gel. Maintaining

the variety of the amenities offered by GR, switching to dispensers would enable fringe financial costs savings: bulk products are priced at around £0.45 per 100 ml (compared to £0.47 per 100 ml). Calculating the installation cost and the average consumption per guest, financial savings can achieve 38% after the first year (installation costs explain savings of only 14% in the first year). This amount accounts for £0.22 savings per guest per night after the first year. The environmental impact of switching to bulk is more significant, as plastic savings can reach 90%, accounting for 2215802.3 gr of plastic and 13294813.9 of CO₂ cuts (479092.4 save trees) per year. Considering the 25 777 guests that GR UK had last year, and their average 4.9 nights 'stay, the average plastic savings per guest per night would equal 17.5 gr of plastic and 105.3 gr of CO₂ (4 trees).² (Annex 5)

II. Clorox, a cleaning products provider, indicates household cleaning products as the second biggest environmental concern after automobiles (Nidumolu e al., 2009). In the UK, refillable options are available for green cleaning products, as are refill stations. The calculations presented here consider a pack of 4 products available in refillable packaging: all-purpose cleaner; windows cleaner; toilet cleaner; and bathroom cleaner.

Both Ecover and Bio-D use recycled and plant-based bottles made from naturally sourced raw materials free from chemicals. A 500 ml bottle made from renewable sources such as sugar cane (instead of fossil fuel) generates a carbon footprint 66% lower than a usual plastic bottle (Bipiz, 2020). Per guest and per night, this corresponds to 36.5 gr of CO₂ (1 tree saved). This positive

² This conversion to CO₂ is based on a study from Time for Change that calculates the carbon footprint of plastic (LDPE or PET, polyethylene) to be of ca. 6 kg of CO₂ per kg of plastic. Several studies estimate that for each 27 grams of CO₂ reduction is equivalent to plant a tree (Frasson E., 2020).

impact can be even higher, as both companies are moving towards 100% renewable and biodegradable products.³ (Annex 6)

Using the previous sample, and considering the 2019 UK's average weekly expenditure on cleaning products of £2.50, and the average UK price per 100 ml of cleaning product (figures based on cleaning products' prices charged by Airlinen, GR's current amenities and linen supplier), the average consumption UK of cleaning products per day is of ca. 85 ml. This is the estimated amount of cleaning products used per day in a property operating at 65% occupancy. Using Bio-D would lead to a cost reduction of 39%, due to refillable options and cheaper bulk prices (£0.52 per guest per night). When it comes to Ecover, this result is negative, due to the unavailability of refill options for some products in the pack. The cost per 100 ml for Bio D bulk refill is £0.23 on average, while the average Airlinen price is £0.38.

III. At the moment, 40% of UK households use renewable energy, but renewables have the capacity of conquering up to 90% of market share. In addition to the impact this would have in the fight against climate change, 88% of consumers affirm that they want brands to help them be more sustainable (Big Clean Switch, 2020).

LED lamps save up to 75% - 80% electricity when compared to traditional lamps. This reduces expenditures, but also CO₂ emissions: by ca. £60 – 70 and 222 gr of CO₂ (almost 8 trees) per guest per year. The use of clean energy from 100% renewable sources can achieve even higher savings. According to Frasson's study, if renewable energy replaces traditional energy, average savings can achieve 1581 g of CO₂ (58 trees) per guest of the green hotel (Frasson, E., 2020).

³ When calculating the CO₂ correspondent to 5-litre gallons, and due to the unavailability of concrete data, it is assumed here a direct and proportional CO₂ to ml correlation. Naturally, these figures must therefore be read bearing in mind a margin of error.

Based on GR's sample, choosing Bulb as energy provider would save 2 399.23 gr of CO₂ and 87 trees per guest per night. In 2018, these figures were 0.283 kg of CO₂ per kWh of electricity. Bulb reduces annual CO₂ emissions for home energy to zero, because it offers 100% renewable electricity. Homes whose electricity is provided by Bulb emit 0.00 kg of CO₂ per kWh of electricity. (Annex 7)

6. Conclusion

During the last quarter of a century, the growing importance of sustainability and sustainable development drove companies to transition to more environment-friendly models and practices. At the same time, tourism became the world's largest service industry, accounting for ca. 5% of global GDP and a predicted carbon footprint of up to 15% by 2030 (Fox, L., 2020). Within the tourism industry, short let companies deserve special attention due to its popularity and limited carbon footprint when compared to hotels.

While hospitality companies admit to the benefits in "going green" (Sloan et al. 2013), smaller companies face a unique set of obstacles, given limited time and access to resources, operational incompatibilities within growth strategy. This research Work Project intends to contribute to the academic literature on less studied small hospitality companies. It analyses one particular short let start-up in its journey to sustainability, in order to answer the question: *How can the short-let industry become more sustainable? Specifically, what is the environmental (CO₂) and financial impact of replacing small plastic amenities, cleaning products and conventional energy with greener alternatives?*

This direct research Work Project's evolved from an invitation by Guest Ready (GR), an international start-up now European leader of Airbnb properties management, to the author of this

dissertation to conduct a study on the environmental impact of replacing suppliers and/or products for greener alternatives. While its combination of qualitative and quantitative research is important for an overarching assessment of any organisation, its study is naturally limited by time and space requirements. The choice of the UK as sample market and the focus on the most important element in GR's services' value chain sought to respond to such limitations.

This dissertation's conclusions regard four main points. Firstly, it is worth to point out that GR's team is very clear regarding its concern with profitability, thus confirming the literature's assertions about the particular challenges that transitioning towards sustainable hospitality practices poses to smaller enterprises. Connected to this emphasis on profitability, GR's reliance on suppliers is specifically identified by staff as a barrier in the company's journey to sustainability. However, GR's leadership is committed to sustainability and does have the power to influence employees' perceptions of the costs and benefits of sustainability.

Secondly, the hospitality market is changing. Guests are increasingly willing to pay more for eco-friendly accommodation and hosts may be, in the opinion of GR's staff, sensitive to the financial and ecological benefits of sustainability. The actual business model of a sustainable GR will depend on a number of factors related to guests, hosts and suppliers. In other words, how to monetize sustainability is a debate that involves several variables and, indeed, personal preferences. The final option will rely on the financial cost of transitioning to sustainability, added to the benefits it entails in differentiation, reputation and overall increased business volume.

Thirdly, while brand differentiation and reputation derived from a renewed eco-friendly image are almost impossible to calculate a priori, the financial implications of replacing GR's main direct costs – amenities, cleaning products and energy – for eco-friendly alternatives is not. In fact, this study concluded that such a move would allow savings per guest to achieve £1.02 (£0.09 in the

first year) per night (17% in energy and ca. 40% in amenities and cleaning products). For GR, and factoring only the replacement of plastic amenities for bulk dispensers, savings would account for £28,143.12 after the first year. These are not extraordinary financial savings. However, if pondered in the long term and added to the impact achieved by embarking on a clear trend towards sustainability, the added impact of cost reduction and differentiation, first mover advantage and reputation is likely to generate a better financial performance.

Finally, the environmental impact of replacing amenities, cleaning products and energy for eco-friendly alternatives is unequivocal. It can reach almost 100% of CO₂ emissions with a zero-carbon offer from a 100% renewable energy provider, 66% in cleaning products and 90% in refillable amenities' dispensers per year. GR's carbon footprint would be reduced by 599.9 kg of CO₂ (492 401 saved trees). Saved CO₂ emissions are equivalent to 7 245 (500 ml) plastic bottles or 2.2 flights from Lisbon to London (and back per person).

For future research, it would be interesting to consider other markets for analysis (namely, the Chinese market) and other externalities aside from CO₂ to measure environmental impact. The current Covid-19 pandemic and the predicted following economic recession will also shed new light in the question: how much are travellers really willing to pay for eco-friendly accommodation?

References

- Elkington, J. 1997. "Enter the Triple Bottom Line". *Cannibals With Forks : Triple Bottom Line of 21st Century Business. John Wiley & Son Ltd. Pp: 1-16*
- Ernst & Young and GreenBiz. 2012. "Six growing trends in corporate sustainability". Retrieved May 14, 2020 from http://www.fusbp.com/wp-content/uploads/2010/07/Six_growing_trends_in_corporate_sustainability_2013.pdf
- Climate Action. 2020. "2020 Climate & Energy Package". *Climate Action - European Commission*. Retrieved 10 May 2020 from https://ec.europa.eu/clima/policies/strategies/2020_en.
- UNFCCC. 2015. "UNFCCC eHandbook". Retrieved from <https://unfccc.int/resource/bigpicture/#content-the-paris-agreement> [Accessed Dec. 7, 2019]
- Climate Action – European Commission. 2020. "Paris Agreement". Retrieved May 14, 2020 from https://ec.europa.eu/clima/policies/international/negotiations/paris_en
- UNEP. 1994. "Environmental codes of conduct for tourism". *Paris: UNEP/IE. Technical Report*. Retrieved May 10, 2020 from <https://wedocs.unep.org/bitstream/handle/20.500.11822/29224/EnvCodTour29.pdf?sequence=1&isAllowed=y>
- Nidumolu, R., Prahalad, C., & Rangaswami, M. 2009. "Why Sustainability Is Now the Key Driver of Innovation". *Harvard Business Review*. 41(2):30-37
- Vernon, John, Essex, Stephen, Pinder, David and Curry, Kaja. 2013. "The 'Greening' of Tourism Micro-Businesses: outcomes of focus group investigations in south east Cornwall". *Business Strategy and the Environment*, 12: 49-69
- Flammer, Caroline. 2012. "Corporate Social Responsibility and Shareholder Reaction: The Environmental Awareness of Investors". *Academy of Management Journal*, 56: 758-781

- Russo, Michael & Fouts, Paul. 1997. "A Resource-Based Perspective on Corporate Environmental Performance and Profitability". *Academy of Management Journal*, 40
- Airbnb. 2020. "Airbnb 2017 Summer Travel Trends". *Airbnb Newsroom*. Retrieved May 17, 2020 from <https://news.airbnb.com/airbnb-2017-summer-travel-trends/>
- Aragon-Correa, J., Martin-Tapia, Immaculada and de la Torre-Ruiz, Jose. 2015. "Sustainability issues and hospitality and tourism firms' strategies". *International Journal of Contemporary Hospitality Management*, 27(3): 498-522
- Aragon-Correa, J. 1998. "Strategic Proactivity and Firm Approach to the Natural Environment". *Academy of Management Journal*, 41(5): 556-567
- Gutiérrez-Martínez, Isis and Duhamel, François. 2019. "Translating sustainability into competitive advantage: the case of Mexico's hospitality industry" *Esmerald Publishing Limited, Corporate Governance International Journal of Business in Society*, 19:1324-1343
- Albertini, Elisabeth. 2013. "A Descriptive Analysis of Environmental Disclosure: A Longitudinal Study of French Companies (WITHDRAWN)". *Journal of Business Ethics*, 121
- Esty, Daniel & Winston, Andrew. 2006. "Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value, and Build Competitive Advantage". *Yale University Press*.
- Fox, L.. 2020. "Travel tech pros put sustainability behind economy as key challenges for 2020". *PhocusWire*. Retrieved April 20, 2020 from <https://www.phocuswire.com/Travel-Technology-Europe-2020-research?ctxp=>
- Hashmi, Zeynep Gulen & Muff, Katrin. 2015. "Evolving towards truly sustainable hotels through a "well-being" lens: The S-WELL sustainability grid." *Sustainability in hospitality: how innovative hotels are transforming the industry. Greenleaf Publishing, Sheffield*, 117 - 135

- Eccles, R., Perkins, K., & Serafeim, G. 2012. "How to Become a Sustainable Company." *MIT Sloan Management Review* 53(4): 43-49
- Menze, J. 2020. "How technology and eco-friendly practices are helping short-term rentals go green". *PhocusWire*. Retrieved April 20, 2020 from <https://www.phocuswire.com/short-term-rentals-sustainability?ctxp=>
- Calderon Hinojosa, F. 2020. "Yes, sustainable tourism is within reach". *PhocusWire*. Retrieved April 20, 2020 from <https://www.phocuswire.com/sustainable-tourism-within-reach>
- U.S.A.'s Environmental Protection Agency
- Unwto. 2020. "International Tourism Growth Continues To Outpace The Global Economy". *Unwto*. Retrieved April 20, 2020 from <https://www.unwto.org/international-tourism-growth-continues-to-outpace-the-economy>
- A. O'Neill, Martin and Duarte Alonso, Abel. 2009. "Small Hospitality Business Involvement in Environmentally Friendly Initiatives." *Tourism and Hospitality Planning & Development*, 6 (3): 221-234
- Darnall, N., Henriques, I. and Sadorsky, P.. 2010, "Adopting proactive environmental strategy: the influence of stakeholders and firm size". *Journal of Management Studies*, 47(6): 1072-1094
- Renwick, D.W., Redman, T. and Maguire, S. 2013. "Green Human Resource Management: A Review and Research Agenda". *International Journal of Management Reviews*, 15(1)
- Bruns-Smith A., Choy, V., Chong, Howard and Verma, Rohit. 2015. "Environmental sustainability in the Hospitality Industry: Best Practices, Guest Participation, and Customer Satisfaction". *Cornell Hospitality Report*, 15(3), 6-16

"U.S. Experiential Traveler Trends 2019: New Skift Research". 2020. *Skift Report*. Retrieved 16 May 2020 from <https://skift.com/2019/03/12/u-s-experiential-traveler-trends-2019-new-skift-research/>

Giles, Liz. 2020. "The Environmental Upside to Refillable Dispenser Systems: Green Lodging News". *Greenlodgingnews.Com*. Retrieved May 17, 2020 from <https://www.greenlodgingnews.com/the-environmental-upside-refillable-dispenser-systems/>

Innovation Lighthouse. 2020. "Sustainable Stays Living Lab". *Innovationlighthouse.Org*. Retrieved 3 April 2020 from <https://www.innovationlighthouse.org/sustainable-stays>

Ernst & Young. 2013. "Value of sustainability reporting". *EY and Boston College Center for Ernst & Young. Corporate Citizenship report*. Retrieved May 17, 2020 from https://www.ey.com/Publication/vwLUAssets/EY_Value_of_Sustainability_Reporting/%24File/EY-Sustainability.pdf

Tugba Sabanoglu. 2020. "Average weekly household expenditure on cleaning materials in the United Kingdom (UK) in 2019, by age of household reference person* (in GBP)". *Statista*. Retrieved 17 May 2020 from <https://fesrvsd.fe.unl.pt:2099/statistics/285609/cleaning-products-weekly-uk-household-expenditure-by-age/>

2020. "How to Reduce Your Carbon Footprint While Travelling". *Northern Ireland Travel News*. Retrieved April 20, 2020 from <https://nitravelnews.com/blog/how-to-reduce-your-carbon-footprint-while-travelling/>

2020. "ECOVER: A 100% Recyclable, Renewable and Reusable Packaging – Bipiz". *Bipiz*. Retrieved May 17, 2020 from <https://www.bipiz.org/en/csr-best-practices/ecover-a-100-recyclable-renewable-and-reusable-packaging.html>

Frasson, E.. 2020. "Green Hotel: 20 actions for a more sustainable accommodation". Retrieved April 24, 2020 from <https://ecobnb.com/blog/2018/12/green-hotel-actions/>

The European Environment Agency. 2016. "UK CO₂(eq) emissions due to electricity generation". Retrieved 10 April 2020 from "KWH-To- CO₂". 2020. Rensmart.Com. Retrieved 20 April from [https://www.rensmart.com/Calculators/KWH-to-CO₂](https://www.rensmart.com/Calculators/KWH-to-CO2)

Smarter Business. "The Average Gas & Electricity Usage In The UK - Smarter Business". 2020. Retrieved 20 April 2020 from <https://smarterbusiness.co.uk/blogs/average-gas-electricity-usage-uk/>

How Many trees. 2020. "CO₂, trees and environmental impact: Trees are a "natural antidote" against CO₂". Retrieved 10 May 2020 from <http://howmanytrees.org/co2-trees-and-environmental-impact/>

Kommenda, Niko. 2020. "How Your Flight Emits As Much CO₂ As Many People Do In A Year". *The Guardian*. Retrieved 5 May 2020 from <https://www.theguardian.com/environment/ng-interactive/2019/jul/19/carbon-calculator-how-taking-one-flight-emits-as-much-as-many-people-do-in-a-year>

Time for Change. "What is a carbon footprint – definition" Retrieved 28 March 2020 from <https://timeforchange.org/what-is-a-carbon-footprint-definition/>

Appendices

Annex 1: Interviews' transcriptions

(N= Nathan Busutti, Account Manager; I: Interviewer)

I: In your opinion, what is GR's main concern in its growth strategy?

N: Cost reduction is for sure GR main concern as we still have a start-up approach.

I: Do you think that GR can grow in a sustainable direction?

N: We already started; we use no paper in the office. The sales team go out, they sign the host and then I'll go out and take from that. Lots of times, landlord has done it before, and they had house instructions on paper, and we decline that. Now we send everything by email. It looks good and we try to go greener. Personally, I want it to be greener.

I: Who are your amenities' suppliers and how does it work in terms of logistics?

N: Cleaning services supply the towels, linen sheets, and small amenities. The cleaning products are bought by the host.

I: What are the amenities that GR provides to guests?

N: We do split the service. Every time a cleaning crew goes to prepare the property for a guest, there would be small plastic bottles of shampoo, like you can find in the hotel. But that definitely can be changed for something else. In the end of the day it's the easiness, for us it's easier to buy a package from a third-party company, which is what we use, and then they are the ones that set up the product, that's not actually us.

I: How are the amenities and linen bought from the supplier?

N: They will come in a pack, linen, towels, and then the shampoos, conditioner and shower gels. We don't provide any more as they are only there for a couple of nights. I definitely consider that

there is a room for improvement there, but it's more an issue of what service was going to provide that, how can we work around it. If there are out there other companies that provide more green services, it's an easy way around it: buy some dispensers and have it in bulk stored in the property.

I: What are the main criteria of guests when choosing a property?

N: Location is the main thing; we have some pretty cheap properties in zone 1 that sell best. The only downside there is bad reviews. Two beds in zone one and two.

I: Do you think there are possible sustainable alternatives in the market?

N: I think the cleaning team can be more sustainable instead of keep buying single use plastic bottles. I think there's definitely an opportunity there to the client: just buy more sustainable products. Costs come into it; we manage 400/ 500 properties and we have to buy bottles, we might want to brand it and it costs. For a start-up, there's another issue. Are we willing to support those costs, do we have the financials for it, can we use that money for something else?

I: Do you think that hosts would be willing to pay more for a sustainable service? Who will need to be charged in the end, when sustainable initiatives are implemented?

N: When it comes to money, that's what it's all about, as a business, as a host and as a guest they all want to pay less and receive more. As a company, we need to receive that commission to actually be profitable. So, when you add something that is an extra it always rocks the lower one, despite the fact that people want to help the planet and are conscious of it. If there was that option, and so customers were willing to pay a higher cleaning fee, we'd need to stay competitive, as our rate is quite high. If the hosts are managing themselves as a single unit, the cleaning fee is even quite high (50/40 pounds) (paid for by the guest). So, let's say, if we sell it to the host, and they wanted to pay a little bit more commission, it's good for us to.

If the platform had some initiatives, such as pay less commission to the platform as you are x% sustainable and we had the way to prove it... We are still quite young, but we have our own platform, but nothing when compared to booking.com, Airbnb and homelike. It's cheaper to the host to advertise their property through our platform as we charge a lower commission, but the daily rate is the same. There is potential to increase the nightly fee by 1% of the commission, so let's say we take 10% from that if we increase by 1% if the property is sustainable.

I: What are other competitors doing in the market?

We are trying to be greener. Pushing it, the information is there, I even didn't know about it before it went out so I was a little wowed. We haven't spoken to our hosts about this.

I: Do you provide sustainable guidelines to hosts?

N: No sustainable practices, apart from just recycling in London, this is how we do it. Sometimes the host requests us to turn the boiler off, which is a pain as sometimes it doesn't start when they try to switch it back on. Again, more issues make my life harder. Being sustainable is not easy; we have to put more effort on it, I think in the future it will be easier. Trying to educate people. After the sale we can tell them about the sustainable practices, switching the lights off...

I: Why don't / do you think Guest Ready can grow in this direction?

N: I think that if we can even do a small change in the bottles, yes, we can just buy a dispenser and use it for a time. I think it would be a good way, but then there's a risk that guests could take them home. People do it. If it's a small percentage, as it would be cheaper, we can replace it.

I: What best practices do you think will work in a short let stay property?

N: I think incentives is another way to go around this. The only thing is that we have an option to go green when they book, then the whole process should change, it would be complicated, it would be a self-check in or not, is this green or not? The wages, are you taking them away from that job?

We are a start-up, so costs are a big matter. I'd recommend something with the cleaning team. We have to go down the chain to our suppliers, if they are willing to do it would be easier.

I: Do guests or hosts ask for sustainable initiatives?

N: In terms of hosts, there are a few with whom we talked about that. Unfortunately we work in a kind of streamlined way, there are no options to not complicate the process. So, adding more processes to a streamlined service can be quite confusing for the whole company and we would like to keep it simple 'cause getting away from that line makes it a little bit difficult. We are trying to keep it very tight, but personally I would be open to it as long as the company still runs fluently. Once I start to explaining I can't promote it as much as I want to accept it because I can't guarantee anything, the only that I can half guarantee is that if they provide with the sustainable cleaning products to start the cleaning they will use it but once they need to be replaced the host would have to buy it themselves. (the cleaning can replace it usually, but the host is the one who pays it.) In the cleaning fee there is included the service, the towels, the amenities.

Important quotes: As a guest, when I arrive and there is stuff already, I don't have to go out and buy it. Fantastic. I might take them with me, I think girls care more about this. Everyone would be delightful to be more sustainable in general, let's say we use cartoon instead. Before plastic was used no one had the issue but now we are used to it. I think it is the supplier that we need to. They are just providing the service. Towels can be in the linen bags not in plastic. All the same company provide everything. They might be a small company and have small financial backing so they might be using the cheapest products they can have.

(J= John Severino, Account Manager; I: Interviewer)

I: Do you think that GR can grow in a sustainable direction?

J: Regarding sustainability it's not something that we are actively doing. I know we have some clients that raised that issue, and it also was raised by some of our partners. Being cost effective is the main issue. But there is that concern about plastic, but here in the UK is something that we don't fully invest in. But it's something we are looking for to do it in the future. Everyone does that.

I: What are the amenities that GR provides to guests?

J: We don't provide bottles, nothing related to food. Some competitors have these welcome packs, heavily branded. We would love to have that but it's such of a logistic nightmare to have it. You have to supply at least 50 packs to store in the property, because the cleaner does not take that. I think 5% would like to have milk and sugar. But tea we use.

I: What is the main criteria of guests when choosing a property?

J: Because the market is so seasonal, it really depends, but overall, in a city like London, location is the key. If you have a good location, booking is almost guaranteed.

I: Do you think there are possible sustainable alternatives in the market?

J: I think on that sense it would be really smart for a company like us, it's something that you can implement branding and it's something that we essentially offer as a package. If there is a client that is environmental worried (conscious) for extra x per month or in percentage, we can build it operational into your home, we can possible have branded dispensers, and deliver litres of organic soap, and leave it and just refill it. I think it can work. Just in terms of operational costs it can be really crazy to get people on board.

I: Who will need to be charged in the end when sustainable initiatives are implemented?

J: On both sides, we can have this offer for the host and add an extra 2%. On the guest side, it would depend on how they see the marketing behind it. Airbnb Plus hosts want to pay more

because they feel that place is extra mile. It would actually be really cool to have the same thing for sustainability.

The problem with cleaning fees is that it is already something really competitive. It can't be raised because it is too high when compared to the ones that are not professionally managed. So that may be an issue. If it's a matter of 5 pounds, you probably can get it.

We would be able to understand better what it looks like, it can have a better impact, what is the marketing value. We know that this is very trendy, we can come up with statistics, while we have this package to go green. Maybe we join a foundation or do a partnership with something and we know that everything is as clean and sustainable as possible. It would be actually really cool and of course it would position our company on a branding level. You can brand your listings by partnerships with Green Tree or something.

I: What are other competitors doing in the market?

J: I have no idea. On a business level, if you are offering this, it has to be on a bigger scale, in order to balance the costs. Joining with other company, a partnership can be useful for this. For a non-plastic company, they give you a trial for 3 months, a cross promotion, we give you the product and then you can just promote us. Also, it would be helpful for hosts to test if it has a big impact. The kind of feedback that we receive. If we manage at least 2 flats in a building, it would be interesting to try them 'cause they share the same kind of cleaning tools. It would reduce.

I: Why don't/ do you think Guest Ready can grow in this direction?

J: Costs and logistics. It does take lots of time and passion to get when we are. What we do is very service, and tech, it's time and money. Also, we need to make sure people are doing it currently. If they don't check the soap, and the client does not have soap for that day, it can't happen.

I: What best practices should you think will work in a short let stay property?

J: They buy in bulk and create these packages of necessities. If they run out, we replace it and charge the host.

I: Do guests or hosts ask for sustainable initiatives?

J: Not really, to me personally there is one or two that raised it. One of their major concerns was using the plastic. They suggested a dispenser, not only 'cause of plastic but also 'cause of the carbon footprint. But it's nothing that our current supplier does, it is just a logistical nightmare to try to figure that out. I think for us, it's lots of operational processes and it's expensive.

(R= Ryan Chow, Operations; I: Interviewer)

I: Who are your amenities suppliers and how does it work in terms of logistics?

R: We have our own cleaners in London. Bookings come in, we clean the flat, check out and cleaners come again. Cycle. Linen, cleaning supplies and toiletries. Every time cleaner goes in, other driver, the third party company that is our provider comes in with toiletries and linen and takes back the other ones. Usually they use the cleaning products inside the flat, but sometimes they don't have it. These are the products that we can get from the supermarkets, it's quite expensive if you want to buy those professional ones, also usually you have to buy it in bulk for the professional ones, so they don't have access to. But we are looking forward to having them. In this point, it's more if it's strong or not, because there are the commercial ones for host use. The ones that we want to order in bulk would be professional ones, stronger, and you will need to know how to handle them in your eyes. If the provider has an eco-friendly option, we can look into it, but there is the cost factor. The other factor is how we distribute them to the cleaner 'cause every month we have a cleaners' meeting. At that point we can deliver them the product, but on the contract itself there is no term saying you should come here to collect the cleaning product. Some

of them prefer to have theirs, because it is more convenient for them but some of them just use the ones inside the flat, so they don't bring anything with them and it's easier. For the host I don't think that really matters. I know that some hosts want some eco-friendly products, 'cause some hosts have these cleaning guides when they sign the flat saying "I don't want strong products on this, you must use this brand, it's good". Anyway, they will pay for the products. One of the factors that are holding us back for this buy in bulk approach is how to charge each person. If I buy it in the supermarket I can leave it in the flat but if we have this approach of them coming into the office to be refilled every time, we don't want to leave them cause these ones are stronger and we don't want someone to waste them, so they will bring it with them. From the host's perspective it's like: "oh, we are paying for a thing and we do not see a product there..." Airlinen are the cheapest in the market, we are using them since the beginning, price is one of the factors, we know that other companies can supply more eco-friendly ones, but it's complicated to do it. Right now, one company supplies all towels and toiletries, so it would be hard if we want to separate them as it would complicate the distribution to the flat. We have flats in London where the entire building is ours, we are looking into trial in these buildings first and saw how it works. Larisa is trying to get some quotes from Airlinen regarding greener products and also other companies. It is one initiative from Porto. If cost wise it would be similar and if we can put our brand on it would be even better. Operational for sure we want a good PR and better revenues. It would be good to have a tailor each package to each host, they can choose if there is a sustainable option, we would use them to be more premium service. But operational wise it is very difficult cause cleaners need to know that in this flat you have to put this. In hotels is easier to differentiate as you can tell them that in suites, they should use one specific product and for Airbnb it is harder. If it is a nice product, or an eco-friendly one is not necessary to put our brand on it because we can advertise all of this

as an eco-friendly product and we can advertise as it is. We want to have that consistency as in other markets they are consistently changing the brand, is the same company but sometimes they change the brand maybe because of short supply or something. How can we deliver it in an easy way would be very helpful. Larisa already asked for some quotes. What she wants to do if first they are environmentally friendly and then brand it with guest ready logo. We pay 1.5 for the toiletries pack. You don't know if they will use it, but we have to pay for it. In terms of deliver we need to rely on that 3rd party, I think they will transport other brands products. I don't know if they already provide greener products. They use quite a lot of plastics, the towels and linen are in plastic, the pack is plastic. Operation wise it is very easy to use this provider, one pack I just give to you is already prepacked, they deliver during the cleaning. Easy to count and deliver. Everything is standardized. If you remove the plastic bag is going to be different items, it would get dirty easily. The only thing that separate the clean and dirty is this plastic bag, so it would be difficult to change it.

I: How are the amenities and linen are bought from the supplier? (Bulk vs small orders)

R: Each time, every time is one set, conditioner, body gel, shampoo, body lotion. We pay each time. We were thinking if we could do the same, so this eco-friendly products instead the traditional ones, but if we buy in bulk and its cheaper we can send them to the same company, 13rd party company, Airlinen and they can distribute it with a cost, it will be still fine. If the math is still fine. Investment needed? If we start to trial it out in the few flats that we have, if we have bought this product, we will charge this host because we will store it in this building. So, that will not cause a problem, we will charge the host. 4 / 5 flats in the same building. For sure it will be use so it will not be a problem to pay in advance, not an investment. For individual flats it would be difficult.

I: What are the main criteria of guests when choosing a property?

R: Depends on each type of guest. Location for course. For leisure, and they know where they want to go. The price match what they expect.

I: Do you think there are possible sustainable alternatives in the market?

R: Dispensers. Depends on how it's going to be inside the flat. From experience, they will take it. In homes like Airbnb they will not put a structure into the wall. Or use water bottles to grab it or just use some empty bottle. We can work around and put those large bottles in storage somewhere inside the box and whenever we have to refill it, we can but also, we have these problems what is the bottle damage, we need something to fit in the walls. Those dispensers, pump sometime get stain is hard to clean. If you want to go sustainable it would be super expensive, the most ideal companies is the same package by biodegradable package with these eco-friendly shampoos that is better for the environment, it would be expensive, is hard tech stuff, but at the same time because it is easier for us to distribute for the flats, because in terms of logistics wise is just the same thing, but replace it by higher quality ones. This could be the easiest way.

I: Do you think that hosts or guests would be willing to pay more for a sustainable service?

R: From the host side I think some of them would be ok with it but a lot. If they trial out for 1 month and they help to get more bookings, and reviews mentioning the eco-friendly practices, if it brings a lot of benefits for them maybe they will choose them, but otherwise I don't think that they don't care about that. If it is the same price, and we continue to charge the host and we still offer this they will consider this. I don't think guests will pay more. People will pick an eco-friendly product, but as guests I don't think they would pay more. Maybe 1 out 10 will.

If reservations go up for 20% more, we earn more anyway. But anyway, we can charge a small fee for every booking. I think mostly the host will pay for it not the guest. Because it would force the guest to do it, so it makes no sense. As a host you can choose to offer it.

I: Do you provide sustainable guidelines to hosts?

R: Online. Maybe not value the sustainable tips. We have a block in GR we talked about it, but I don't know if a lot of people ask for that, I don't think so. Is not a super huge deal and unlike hotels we don't change towels everyday so that's already a sustainable practice? One set of towels per stay, if you want more you have to pay additional 20 pounds.

(L= Larisa Maxim, Housekeeping; I: Interviewer)

I: In your opinion, what is GR's main concern in its growth strategy?

L: Each month keep track of the cost; I have the cost from the linen and cleaning. These costs are divided on the numbers of the check outs. Cleaning cost and linen per booking. Every time we have a complain we might send a cleaner two times for the same property, automatically the cost will be higher. Of course, we have the cleaning fee that is paid by the guest, but at the end we have more costs. It's very hard to keep the costs in the same line. Cleaning: between 25-30 \$ cleaning fee per booking. Ratings 4.7 for each city is my goal, but as you are working with different people and cleaners, sometimes they feel more motivated. One week after a meeting they are super motivated, I'm part of this company, I'll do my best for all the bookings. Other side, it depends also on the guest, sometimes that treat them as cleaners and they take it as persona and the motivation goes down, and it would be reflected in our review. Keep all these people motivated is one of my challenged. For them is not like, the person who is working on the office, because we might be

motivated by performance, to growth in my role, for them it's just money in the end of the day.

Full time: 13 and the 3-part time and other agency we worked with. Edinburg is a family business.

I: Do you think that GR can grow in a sustainable direction?

L: We wanted to implement speaking about the toiletries, all companies going green. Right now, we are just providing them in plastic bottles, and we are in discussion with our provider to get the toiletries eco-friendly but this problem with China there would be a delay, but we want to implement this. First of all, toiletries, when everything will finish in 2 3 months to avoid plastic anymore. Right now they have only normal plastic bottles. Little bit more expensive, but I didn't see any tester. Max 50pence up of how much we are paying. For now, we pay 2.5 for a pack of toiletries so I'm expecting to be at 3. Because our provider is providing linen and toiletries, toilet roll, if I have 1 bedroom flat with double bed total cost for package 14.5 pounds (one bag of linen, two big towels, two smalls, toiletries for 2 persons and 2 toilet rolls). It will increase but the price would be the same as the minimum order for them is 15 pounds, I'm paying 14.5 but they are charging 15 as it is the minimum price. Only for 1 bedroom flat. For the others, 2/3 bedroom the cost would be higher but anyway we want to negotiate the contract with them, because we are also paying a delivery fee of 2.5, I'm expecting them to negotiate the price, in the end I want to keep the price the same. If the price increases for the toiletries I will try to negotiate the contract for other like linen or delivery fee. To be honest, they are having some bags like material bags, but the problem is that don't have enough so they use the plastic one also.

I: Who are your amenities suppliers and how does it work in terms of logistics

L: For cleaning products, it is sad cause if you want to go for this kind of products you have to pay more. So, here is the problem. I had meetings with some of them but nothing super concrete. It's too much to pay. Right now we use the normal ones the ones you can buy in the supermarket. I

know that one of them would come to the office and install a machine (as for coffee) back coffee, sugar. Something like this with one container with toilet, floor, and the cleaner just need to refill it. Big bottles of product, leaving them in the office, fill and cleaners refill it here. They can do this, but I decided not to go forward because in some properties the host would like to have the cleaning products for the guest, longer booking. We need these products inside the house, so maybe it would be easier to ask the cleaner to use the products that are there and also, they would have to carry the products (so strong the product). Needs to carry with them and sometimes are so strong that they need to dissolve it in the water (it takes too long), easier to have something already done. I think some of the host will be happy to pay. If the host wants, we can provide 1 bag with the cleaning products, and after they finish it, we replace it. Exactly what we pay is exactly what we charge, 20 pounds is what we pay, and we charge 30 because we pay 10 pounds for the delivery, basically the greeter task (pick from the office and deliver in the flat).. He needs to come to the office and leave it inside the property. We have like a pack with all of them, not something not special products for each home, just a general pack. right now, all the hosts buy from us, they are ok at the end of the month to be charge from these products instead of buying to themselves. ERS flats and guest ready merge, know with bnb (2y5). For those flats, the contract was that the host had to pay 20 pounds each month for the cleaning product, it's easier, we know what is missing. The cleaners do a checklist at the end of the task, and a call, they tell us about if there is missing something. If is missing almost all the products I organize a pack for the next cleaner, or if its missing only one I ask the next person who goes there to buy it. (no charge any delivery, the host will be charged the exactly amount of the product. Only if they come to the office for the whole pack, they have to pay the fee. We should charge the host, operation side the cleaning fee is 80 pounds, as a guest I'm expecting to pay it for housekeeping. For us is toiletries, greeter, linen, so

we can't add it to the cleaning fee because of the expectation of the guest would be super high. Premium services, just promote it to hosts,

I: Do you think there are possible sustainable alternatives in the market?

L: Toiletries because here we are speaking of around 500 orders, 1500 bottles per month, minimum for London. Plastic thing for the linen I has to double check with them and for cleaning products also. Too difficult to put that products in the house, if I work with other provider that means that someone have to deliver those boxes. I don't know if they are be willing to deliver me the products for the same price, as this guy are delivering. Other company the costs can be higher, if deliver the same price it would be ok. But maybe try Edinburg. I didn't find any company that could deliver in this time slot of 1 h and half (delivery). I choose when the product would be delivering, so when the cleaner is inside. In order to be cheaper, we order in bulk, and add our brand, but the problem if they came to the office, I need someone to deliver them to the property. We would go for sure for toiletries. we are in discussion I didn't see any sample. Same company but you have this option to buy in bulk and personalise.

I: Do guests or hosts ask for sustainable initiatives?

L: We have hosts that ask. From the last feedback, a questionnaire was done, and after we ask for some ideas where we can improve and so on. We had 4/5 hosts we're saying you should do something about the toiletries. Most of them will be ok with this. 5/10.

(L= Martin Darras, Operations; I: Interviewer)

I: In your opinion, what is GR's main concern in its growth strategy?

M: Our main focus is profitability, as in this role, this business we need very strong results to be profitable, how can we make the commission better, self-check in vs personal one. First, we need to know that profit is here and then we can focus on sustainability.

I: Do you think that GR can grow in a sustainable direction?

M: Sustainability is not something that we really target as the company is in a very early stage. Our focus is on growth and profitability. If you want to achieve a certain level of sustainability it implies a certain price. So, we are not moving towards in this direction. In Portugal we are moving more in this direction by not using chemical products, reduce plastic waste, re-use the towels, but is not currently what we are doing in the UK. Sometimes is pretty sad, as we have apartments with 3 bedrooms / 4 and guest may use only 2 and cleaners will change only 2. There are these guidelines to make sure that we don't mess with the guest, but this is something we should change because we could have a good impact if start monitoring this thing. In terms of sustainability, we try to ensure that our greeters use public transportation or walk as much as they can and try to avoid cars as they have to commute a lot around places (also more practical in London). The product we use is the cheapest in the market and sometimes is not the best for the planet. For the linen was what referred before, so this is not something we target.

I: Do you think there are possible sustainable alternatives in the market?

M: The problem with cleaning fees is that it is already something really competitive. It can't be raised because it is

About the linen could be one thing, no change if the bed is still clean. Providing them with cleaning product that respect the environment, but this will have a cost, almost double of the price we pay now. For the linen part I think we can do it, for the products it would be more difficult. Dispensers would be difficult as it requires installation in the majority of cases. We already thought about this, but hosts are not willing to add a dispenser in the bathroom and also the cleaner has to carry the product and some of them are not happy about carry. In the short term it makes not super sense to use it.

I: Do you think that guests would be willing to pay more for a sustainable service?

M: It really depends on the guest, on the origin on the guest. We have some feedback of guests that would like to reduce plastic amenities or rubbish. And some don't care at all, so we need to find the right balance. But I think that at some point, we all need to be on the same page, whatever the education is to think about sustainability. So is something that we can market at the marketing side of the company, if we start telling people that we are sustainable on the way, we process with cleaning and also refilling I think it could be a good point for us and for the guest that would appreciate that. In that case I think it can be important.

GR should lead the initiative but then the guest should pay more a bit cleaning fee, but always find the right balance between us and the guest. The guest should not end up paying 20 pounds more on cleaning fee. But if we can manage GR to pay 10 and guest pay 10, it can be something quite good. The cleaning fee is the same when compared to competitors. rdna is a website that it compares all the flats you can find on Airbnb and gives the average cleaning price depending on the amount of bedroom. The average in London is 50 pounds for a 1 bedroom flat, including 2 hours of cleaning, bed change, amenities refill. We all lie on the same line and even try to be a little lower. Competitive advantage. Our linen providers offer ecological products, recycled packaged, but is extra price. We already have been in touch with other companies, but the price is more expensive. But we can start looking for that. If you're really into it and see if Airbnb the apartment is clearly taking attention to this kind of small details that is cleaner to book this apartment, it also can be a good strategy in terms of attraction with guests.

I: Do guests or hosts ask for sustainable initiatives?

L: It happens that some people ask about some ecological guidelines, but not that often, but it happens more and more. Marriot that is a hotel chain, we are starting to have some apartments in

Oporto and in Paris. Apartments approved to Marriot, that needs to follow restrict guidelines and strict procedures and in guidelines there is a high section about sustainability which by signing with them you have to make sure that your apartment was cleaned using respectful cleaning products and all amenities are recycled bottles. So, this is something we are going to switch. It's for GR benefits, but also for host because we have more bookings. The main person who we are targeting is the guest as they are coming to the apartment.

(V= Vansh Arora, Finance, I: Interviewer)

I: In your opinion, what is GR's main concern in its growth strategy?

V: Cost reduction in management in overall organization, keep the growth rate at least stable if not growing, stabilize costs in terms of achieving profitability, organic and nonorganic growth, try to figure out how to grow. Kind of stagnated in the markets where we are market leaders, partnerships, real estate's agencies, M&A could be alternatives in these markets. M&A: ERS (easy rental services), OCF (Oporto City Flats)- same building easy to be more sustainable, Airbnb Lord. The Short-term staying is growing and its consolidating forward as it becomes more organized and reached saturation. Stabilize profitability and growth in each market.

We don't have any unit cost analysis on sustainable practices. The main costs that we want to focus in terms of strategy to achieve profitability as stable costs are direct variable costs are the costs that will impact our growth margins, and we are trying to improve our growth margins to sustain our operating costs (usually high as a start-up). To increase the growth margin, we try to reduce the direct variable costs. The main ones are cleaning and laundry, linen and then check in cost.

I: Do you think that GR can grow in a sustainable direction?

V: We can do and sure focus on going forward but is not lying in the main concerns in terms of strategy as I do think it could help in few growths. The only concern is to incorporate in our operations but without interfere in the first strategy goals (costs and profitability) as it is more difficult to have this sustainable initiatives managing short term rentals as all problems in terms of location, being managed in different ways, costs higher of implementing that strategy, We are doing quite a bit in terms of sustainability in our operations, we can go forward but is quite imitated in terms of our goal of profitability and lowering our costs in this point of time. Over the hotel industry they use a lot paper, pamphlets they are required to have the hotel instructions in the room, and we can do quite well when compared to that being almost paperless, using almost no paper in our operations. (email or messaging app instructions). Entire system focuses on technology which can make us leverage in terms of paper. For the greener choices in terms of greener products, it is easier for hotels given the economies of scale that they have in getting and acquiring this products and effectiveness and efficiency how can do that in a cost effective manner as all facilities are in the same hotels are profitable enough to invest money on this. When the short-term rental services can reach that level of profitability, I think they can and should to have more greener initiatives and it is an important pillar to leverage growth. I think both hosts and guests are aware about the topic and we already received some positive feedback in terms of current initiatives and our focus on implementing further sustainable initiatives is being launched mainly in Porto

I: Who are your amenities suppliers and how does it work in terms of logistics?

V: In the UK is a 3rd provider that is responsible for linen and amenities, so we can negotiate a better price. The only issue is that then cleaners have to transport the refillable to all units or keep a stock in each unit and then it will increase costs as not all apartments are all together. Once

operations can figure out the best option, we can make a unit cost analysis by shifting to a greener option.

I: Do you think there are possible sustainable alternatives in the market?

V: To achieve operation efficiency, our main focus is to have the most effective operation and reduce costs and be stable in terms of growth. Change and amenities, by reusable dispensers. There are off course initiatives to reduce the single use plastic but there are some restrictions like the packaging of linen as we outsourced (is a quite demanding process) and it is a manual process. The outsource company wants to maximize their operational efficiency to reduce costs. As they deliver these packages for different houses, for them is quite difficult to minimize the use of plastic as they do it in a regular basis in different locations (unlike hotels). As an industry we should of course thing what can be done and there are numerous of initiatives that can be done.

I: Do you think that guests would be willing to pay more for a sustainable service?

V: I'm sure that guests will be willing to pay more for that kind of initiatives, especially in certain types of markets where they are more aware and more looking for sustainable options and to switch to greener options. But we can't be sure how much we can increase the price or cleaning fee without compromising our occupancy. Question mark for us? We can probably run a test to a group of certain properties, to move for some initiatives and test for a certain product and how demand react to change in price. But if we are able to keep our costs stable and move for more sustainable options, there is chance to increase our revenue and contribute to a profitability growth in LR (point focus going forward it can infer growth) . Not just in terms of revenues but in terms of increasing demand and supply, more hosts that would like a more sustainable option would like to host with us, which gives us more properties. Competitive advantage, if the guests are willing to pay more or choose a greener option. More supply, more demand. There are certain ways that

can help us to economize costs, by bag buying. Or even like using recycled toilet paper. There are things to consider there, the only thing that is rising is that to implement it operationally in terms of short-term rentals like the logistics of things that I think would make it a little bit more expensive. But if we are able to keep our costs stable while improving that process. If we can't decrease costs but keep them, this is something we should explore.

I: Do guests or hosts ask for sustainable initiatives?

V: Just from general company discussions, there are hosts that definitely like the way of acting positively according to greener options and also like us to have these kinds of initiatives. It could be interesting to have some data on this, run some survey. We have a data base in terms of host information, choices, apartment choices, we rely on tech. But no information in the aspect of if they will like to go for greener options. We should search first before taking any action.

Annex 2: Reasons for an hotel selection






Reasons given by guests for hotel selection

Primary Reason for Hotel Choice	2006	2007	2008	2009	2010
Convenience or location	36.3%	35.2%	34.3%	34.0%	31.4%
Price	19.5%	18.9%	20.4%	19.8%	19.9%
Previous experience	18.9%	17.7%	16.1%	16.9%	17.1%
Rewards program	8.1%	9.9%	12.6%	11.7%	13.8%
Reputation	5.2%	4.9%	5.3%	5.6%	5.6%
Recommendation	4.6%	4.3%	4.1%	4.2%	4.4%
Package deal	3.9%	3.6%	3.2%	3.2%	3.3%
Environmentally friendly	0.0%	0.2%	0.5%	0.5%	0.6%

Note: Based on a data provided by J.D. Power from a survey of 40,000 U.S. consumers.

(Bruns-Smith et al. 2015)

Annex 3: Studied alternatives

Company	Products	Offer	Price	Refill price	Cost Savings	Environmental Impact
Groupe GM	Individual 	30 ml individual bottles 6 gr Weight Consumption per use 10.3 gr (for shampoo) Uses per unit 2.92	Soap £0.11 Shampoo £0.13 (£0.43 per 100ml) Shower gel £0.13 (£0.43 per 100ml) Body lotion £0.15 (£0.5 per 100ml) Conditioner £0.15 (£0.5 per 100ml)	No refill for sale		
	Ecopump 	300 ml Pump Action bottle. 38 gr Weight Consumption per use 14.3 gr (for shower and hair gel) Uses per unit 21	Shampoo and shower gel £3.6 (£1.2 per 100 ml) Liquid soap £3.6 (£1.2 per 100 ml) Body lotion £4.5 (£1.5 per 100 ml) Conditioner £4.5 (£1.5 per 100 ml)	Shampoo and shower gel £18 (£0.36 per 100 ml) Liquid soap £18 (£0.36 per 100 ml) Body lotion £27 (£0.54 per 100 ml) Conditioner £27 (£0.54 per 100 ml)	From changing from individual amenities to dispensers each guest can save per night £0.22 (£28,143.12 in the UK), a 38% reduction	CO2 reduction accounts for 90% cut with less 105.3 gr of CO2 / guest / night (1 3294.81 kg of CO2 in the UK)
Airlinen Standard products			All Purpose 4.29 (0.33 per 100 ml) Window Cleaner : £2.99 (£0.40 per 100 ml) Toilet Cleaner : £1.99 (£0.27 per 100 ml) Bathroom Cleaner 2.89(0.58 per 100 ml).	No refill for sale		
Bio D		All Purpose Windows cleaner Toilet cleaner Bathroom cleaner	All purpose £2.00 (£0.40 per 100ml) Toilet cleaner £2.45 (£0.33 per 100ml) Windows cleaner £2.30 (£0.46 per 100ml). Bathroom cleaner £1.99 (£0.40 per 100ml)	All purpose £9.15 (£1.83 per litre) Toilet Cleaner £11.35 (£2.27 per litre) Mirror and Windows Cleaner £16.00 (£3.20 per litre). Bathroom Cleaner £9.50 (£1.90 per litre)	Changing detergents to highly eco-friendly ones can save £0.22 for each guest per night, a 39% reduction	Changing detergents to highly eco-friendly can save 36.5 g of CO2 emissions for each guest per night, equal to saving one tree.
Ecover			All purpose £2.55 (£2.55 per litre) Toilet cleaner £1.95 (£0.26 per 100ml) Windows cleaning £2.85 (£0.57 per 100ml) Bathroom cleaner £2.85 (£0.57 per 100ml)	All Purpose 13.85 (£2.77 per litre) Toilet cleaner £11.95 (£2.39 per litre)	Changing detergents to highly eco-friendly ones will increase £0.09 for each guest per night, a 7% increase	
Company	Features	Reasons to buy	Reasons to avoid		Cost Saving	Environmental Impact
Bulb	100% green electricity 10% green gas.	Only one tariff 10% green gas £2 donated to charity when you switch no exit fee If you refer a friend, you'll get £50 each	No fixed tariff, so prices can go up or down makes pricing fair. But like any variable tariff, bear in mind that prices can go up too.		Energy Helpline found Bulb to be on average 17% cheaper than standard deals from the Big Six	Considering the electric energy consumed on average , if renewable energy is used savings can achieve 2399.2 g of CO2 for each guest of green hotel, equal to 86 saved trees

Annex 4: Amenities Calculations

ASSUMPTIONS	
Total number of GR guests in 2019	25777
Total number of UK properties in 2019	535
Annual occupancy	65%
Total number of bookings in 2019	8913
Average number of nights per guest	4.9
Average number of guests per property	2.9
Average number of bathrooms per property	1.4

Source: Internal data from 2019 (Tableau export)

Amenities alternatives' evaluation: Financial Impact

VARIABLES					
			Consumption %	Quant. Per property*	Consumption Quantity
N° Properties	535	Soap	46%	2.9	169,323
Annual Occupancy	65%	Shampoo	35%	2.9	128,833
Days per year	365	Showe Gel	40%	2.9	147,237
Total Nights	126,929	Body Lotion	20%	2.9	73,619
		Conditioner	17%	2.9	62,576

CONSUMPTION			
Standard 30 ml plastic bottles			
£	Based on Groupe GM offer:*		
	Unit Price	Total	
Soap	£0.11	£18,286.88	
Shampoo	£0.13	£16,232.92	
Showe Gel	£0.13	£18,551.91	
Body Lotion	£0.15	£10,932.37	
Conditioner	£0.15	£9,292.52	
TOTAL YEAR		£73,296.59	

Dispensers - Ecopump			
£	Based on GM offer for dispensers:		
Shower and hair Gel		Liquid Soap	
Consumption dose (ml)*	41	Consumption dose (ml)*	10
Total consumption	5,258,477	Total consumption	1,262,034
New ecopumpt year/property	535	New ecopumpt year/property	535
5 lt Refill	1,020	5 lt Refill	220
Ecopump cost	£3.60	Ecopump cost	£3.60
Refill cost	£18.00	Refill cost	£18.00
Total Year GCC	£20,278.72	Total Year SL	£5,891.52
TOTAL Year GCC+ SL			£26,170.24
Body Lotion		Conditioner	
Consumption dose (ml)*	17	Consumption dose (ml)*	7
Total consumption	2,103,391	Total consumption	841,356
New ecopumpt year/property	535	New ecopumpt year/property	535
5 lt Refill	389	5 lt Refill	136
Ecopump cost	£4.50	Ecopump cost	£4.50
Refill cost	£27.00	Refill cost	£27.00
Total Year BL	£12,899.11	Total Year C	£6,084.12
TOTAL YEAR BL + C			£18,983.23
TOTAL YEAR GCC + SL, BL + C			£45,153.47

COST REDUCTION			
£	ECOPUMP		
Annual total plastic amenities	£73,296.59		
Annual total Ecopump	£45,153.47		
Support investment Ecopump	£16,178.40		
Savings 1st year	£11,964.72	16%	
Total Savings next year / year	£28,143.12	38%	
Total Savings / guest / night	£0.22		
Total Savings / property	£52.60		

NOTES					
Initial investment in ecopumos support					
£	ABS Support		Chrome Support		
Number of properties	535	535	535	535	535
Number of supports per propety	2	5.6	2	4	4
*Note: For each individual average consumption amount for dispensers, each was multiplied by 2.9 due to the average number of guests per property. First the amounts were divided by 1.75 as this study considered 1.75 guests on average					
Total	£4,256.00	£16,178.40	£18,434.40	£18,434.40	£38,520.00

ASSUMPTIONS	
Average single use of dispenser Shower and hair Gel	14.29 ml
Average single use of dispenser Liquid Soap	3.43 ml
Average single use of dispenser Body lotion	5.7 ml
Average single use of dispenser Conditioner	2.29 ml
Average single use of standard amenities Shampoo	10.5 ml
Average single use of standard amenities Soap	13.8 gr
Average single use of standard amenities Body lotion	6 ml
Average single use of standard amenities Conditioner	5.1 ml
Average single use of standard amenities Shower Gel	12 ml

Source: GM Groupe study

Amenities alternatives' evaluation: Environmental Impact

VARIABLES					
			Consumption %	Quant. Per property*	Consumption Quantity
N° Properties	535	Soap	46%	2.9	169,323
Annual Occupancy	65%	Shampoo	35%	2.9	128,833
Days per year	365	Showe Gel	40%	2.9	147,237
Total Nights	126,929	Body Lotion	20%	2.9	73,619
		Conditioner	17%	2.9	62,576

CONSUMPTION

Standard 30 ml plastic bottles			
Grams of plastic	Based on Groupe GM offer:*		
		Total	
Soap	0	0.00	
Shampoo	6	772996.09	
Showe Gel	6	883424.10	
Body Lotion	6	441712.05	
Conditioner	6	375455.24	
TOTAL YEAR		2473587.48	

Dispensers - Ecopump

Grams of plastic	Based on GM offer for dispensers:		
		Sabonete Liquido	
Consumption dose (ml)*	41	Consumption dose (ml)*	10
Total consumption	5258476.79	Total consumption	1262034.43
New ecopumpt year/property	535.00	New ecopumpt year/property	535.00
5 lt Refill	1019.60	5 lt Refill	220.31
Ecopump plastic gr	38.00	Ecopump plastic gr	38.00
Refill plastic gr	100.00	Refill plastic gr	100.00
Total Year GCC	122289.54	Total Ano SL	42360.69
TOTAL Year GCC+ SL			164650.22
Grams of plastic	Based on GM offer for dispensers:		
		Amaciador	
Consumption dose (ml)*	17	Consumption dose (ml)*	7
Total consumption	2103390.71	Total consumption	841356.29
New ecopumpt year/property	535.00	New ecopumpt year/property	535.00
5 lt Refill	388.58	5 lt Refill	136.17
Ecopump cost	38.00	Ecopump plastic gr	38.00
Refill cost	100.00	Refill plastic gr	100.00
Total Year BL	59187.81	Total Ano AMA.	33947.13
TOTAL YEAR BL+ C			93134.94
TOTAL YEAR GCC + SL BL + AMA.			257785.16

ENVIRONMENTAL IMPACT		
Grams of Plastic	ECOPUMP	
Annual Total plastic amenities	2473587.48	
Annual Total Ecopump	257785.1643	
Plastic savings / year	2215802.3	90%
Plastic savings / guest	17.5	
Plastic savings / property	4141.7	
Grams of CO2		
CO2 savings / year	13294813.9	90%
CO2 savings / guest / night	105.3	
CO2 savings / property	24850.1	
Number of trees		
Saving trees / year	492401	90%
Saving trees / guest /night	4	
Savings trees / property	ASSUMPTIONS	
Carbon footprint of a 500 ml Plastic Bottle		82.8 gr CO2
Carbon footprint of a 500 ml sugar cane plastic		28 gr CO2
One planted tree equivalent		27 gr CO2
Average carbon footprint of plastic (LPDE or PET) per kg of plastic		6 kg CO2
Conversion of Plastic to CO2		
Plastic (gr)	1000 gr	4.50
CO2 (gr)	6000	27
Trees	216.22	1

Source: Bipiz website, Nitravelnew website, Time for Change organization, United Nations Convention on Climate Change (UNFCCC)

Note: When calculating the CO2 correspondent of 5-litre gallons, and due to the unavailability of concrete data, it is assumed here a direct and proportional CO2 to ml correlation

Annex 5: Cleaning Product Calculation

Cleaning Products alternatives' evaluation: Financial Impact

VARIABLES					
			Consumption %	Quant. per property*	Consumption Quantity
N° Properties	535	All Purpose cleaner	7%	1	8,250
Annual Occupancy	65%	Toilet cleaner	11%	1	13,962
Days per year	365	Bathroom cleaner	17%	1	21,578
Total Noites	126,929	Windows cleaner	11%	1	13,962

CONSUMPTION			
Standard Cleaning Products			
Based on Airlinen, current linen and amenities provider, offer:			
	£	Unit Price	Total
All Purpose		£4.29	£35,394.08
Toilet Cleaner		£1.99	£27,784.70
Bathroom Cleaner		£2.89	£62,360.09
Windows Cleaner		£2.99	£41,746.87
TOTAL PER YEAR			£167,285.75

Green Cleaning Products			
Based on Bio D offer:			
	£		
All Purpose (500 ml)		Toilet Cleaner (750 ml)	
Consumption per day (ml)	85	Consumption per day (ml)	85
Total Consumption	10,788,944	Total Consumption	10,788,944
New product per year/property *	535	New product per year/property *	535
5 lt Refil quantity needed	2,104	5 lt Refil quantity needed	2,078
Unit product cost	£2.60	Unit product cost	£2.45
5 lt refil cost	£9.15	5 lt refil cost	£11.35
Total year AP	£20,645.24	Total year TC	£24,890.81
TOTAL YEAR AP + TC			£45,536.06
Bathroom Cleaner (500 ml)		Windows Cleaner (500 ml)	
Consumption per day (ml)	85	Consumption per day (ml)	85
Total Consumption	10,788,944	Total Consumption	10,788,944
New product per year/property *	535	New product per year/property *	535
5 lt Refil quantity needed	2,104	5 lt Refil quantity needed	2,104
Unit product cost	£1.99	Unit product cost	£2.30
5 lt refil cost	£9.50	5 lt refil cost	£16.00
Total Year BC	£21,055.39	Total Year WC	£34,899.12
TOTAL YEAR BC + WC			£55,954.51
TOTAL YEAR AP + TC + BC + WC			£101,490.57

Based on Ecover offer:			
	£		
All Purpose (1000 ml)		Toilet Cleaner (750 ml)	
Consumption per day (ml)	85	Consumption per day (ml)	85
Total Consumption	10,788,944	Total Consumption	10,788,944
New product per year/property *	535	New product per year/property *	535
5 lt Refil quantity needed	2,051	5 lt Refil quantity needed	2,078
Unit product cost	£2.55	Unit product cost	£1.95
5 lt refil cost	£13.85	5 lt refil cost	£11.95
Total year AP	£29,767.67	Total year TC	£25,869.84
TOTAL YEAR AP + TC			£55,637.51
Bathroom Cleaner (500 ml)		Windows Cleaner (500 ml)	
Consumption per day (ml)	85	Consumption per day (ml)	85
Total Consumption	10,788,944	Total Consumption	10,788,944
New product per year/property	21577.8875	New product per year/property	21577.8875
Unit product cost	£2.85	Unit product cost	£2.85
Total Year BL	£61,496.98	Total Year WC	£61,496.98
TOTAL YEAR BC + WC			£122,993.96
TOTAL YEAR AP + TC + BC + WC			£178,631.47

COST REDUCTION					
	£	BIO-D		ECOVER	
Annual Total Airlinen Products		£167,285.75			
Annual Total Bio D				£178,631.47	
Annual Total Ecover		£101,490.57			
Total Savings / year	£65,795.18	39%		-£11,345.72	-7%
Total Savings / guest / night	£0.52			-£0.09	
Total Savings / property	£122.98			-£21.21	

Cleaning Products alternatives' evaluation: Environmental Impact

VARIABLES					
			Consumption %	Quant. per property*	Consumption Quantity
Nº Properties	535	All Purpose cleaner	7%	1	8,250
Annual Occupancy	65%	Toilet cleaner	11%	1	13,962
Days per year	365	Bathroom cleaner	17%	1	21,578
Total Noites	126,929	Windows cleaner	11%	1	13,962

CONSUMPTION			
Standard Cleaning Products			
Grams of CO2	Based on Airlinen, current linen and amenities provider, offer:		
	CO2 emissions (gr)	Total (gr)	
All Purpose	215.28	1776139.38	
Toilet Cleaner	124.2	1734100.58	
Bathroom Cleaner	82.8	1786649.09	
Windows Cleaner	124.2	1734100.58	
TOTAL PER YEAR		7030989.63	

Green Cleaning Products			
Grams of CO2	Based on Airlinen, current linen and amenities provider, offer:		
	All Purpose (500 ml)		Toilet Cleaner (750 ml)
Consumption per day (ml)	85	Consumption per day (ml)	85
Total Consumption	10,788,944	Total Consumption	10,788,944
New product per year/property *	535	New product per year/property *	535
5 lt Refil quantity needed	2,104	5 lt Refil quantity needed	2,078
Unit product CO2	28	Unit product cost	42
5 lt refil CO2	280	5 lt refil cost	280
Total year AP	604180.85	Total year TC	604180.85
TOTAL YEAR AP + TC			1208361.7
Bathroom Cleaner (500 ml)		Windows Cleaner (500 ml)	
Consumption per day (ml)	85	Consumption per day (ml)	85
Total Consumption	10,788,944	Total Consumption	10,788,944
New product per year/property *	535	New product per year/property *	535
5 lt Refil quantivy needed	2,104	5 lt Refil quantity needed	2,104
Unit product cost	28	Unit product cost	28
5 lt refil cost	280	5 lt refil cost	280
Total Ano BC	604180.85	Total Ano WC	604180.85
TOTAL YEAR BC + WC			1208361.7
TOTAL YEAR AP + TC + BC + WC			2416723.4

Based on Ecover offer:			
All Purpose (1000 ml)		Toilet Cleaner (750 ml)	
Consumption per day (ml)	85	Consumption per day (ml)	85
Total Consumption	10,788,944	Total Consumption	10,788,944
New product per year/property *	535	New product per year/property *	535
5 lt Refil quantity needed	2,051	5 lt Refil quantity needed	2,078
Unit product cost	56	Unit product cost	42
5 lt refil cost	280	5 lt refil cost	280
Total year AP	604180.85	Total year TC	604180.85
TOTAL YEAR AP + TC			1208361.7
Bathroom Cleaner (500 ml)		Windows Cleaner (500 ml)	
Consumption per day (ml)	85	Consumption per day (ml)	85
Total Consumption	10,788,944	Total Consumption	10,788,944
New product per year/property	21577.8875	New product per year/property	21577.8875
Unit product cost	28	Unit product cost	28
TotalYear BL	604180.85	Total Year WC	604180.85
TOTAL YEAR BC + WC			1208361.7
TOTAL YEAR AP + TC + BC + WC			2416723.4

ENVIRONMENTAL IMPACT				
Grams of CO2	BIO D		ECOVER	
Annual Total Airlinen Products	7030989.63			
Annual Total Bio D			2416723.4	
Annual Total Ecover	2416723.4			
CO2 savings / year	4614266.23	66%		
CO2 savings / guest / night	36.53			
CO2 savings / property	8624.80			
Number of Trees				
Saving trees / year	170899	66%		
Saving trees / guest / night	1			
Savings trees / property	319			
Grams of plastic				
Plastic savings / year	769044.37			
Plastic savings / guest	6.09			
Plastic savings / prnortv	1437.47			

* : Due to refillable options, only one single product per property is necessary

ASSUMPTIONS	
Average UK weekly expenditure on cleaning materials in 2019	£2.50
Average UK monthly expenditure on cleaning materials in 2019	£10.00
Average UK Price per 100 ml (Based on Airlinen products prices)	£0.395
Average UK ml consumption per month	2531.65
Average UK ml consumption perday	85

ASSUMPTIONS	
Carbon footprint of a 500 ml Plastic Bottle	82.8 gr CO2
Carbon footprint of a 500 ml sugar cane plastic	28 gr CO2
One planted tree equivalent	27 gr CO2
Average carbon footprint of plastic (LPDE or PET) per kg of plastic	6 kg of CO2

Conversion of Plastic to CO2		
Plastic (gr)	1000 gr	4.50
CO2 (gr)	6000	27
Trees	216.22	1

Source: Bipiz Website 2020, Nitratelnew website, Time for Change organization, United Nations Convention on Climate Change (UNFCCC)

Note: Due to the lack data, a direct proportion from ml to CO2 was inferred to estimate the CO2 for bottles with capacity different from 500 ml

Annex 6: Green Energy Calculation

Energy evaluation of alternatives: Financial Impact

COST REDUCTION		
	£	Annual cost
Bulb		£171,019.22
Average UK provider		£206,047.25
Savings / year	£35,028.03	17%
Savings / guest / night	£0.28	
Savings / property	£65.47	

ASSUMPTIONS	
Average UK home uses around 3100 kWh/year	3100 kWh/year
Average household UK use per day	Electricity: 8.5 per day
Price per kWh in GBP – Household	£0.191
(Your annual energy usage) X (The amount quoted per kWh)	£592.04
Bulb	£491.39
UK CO2(eq) emissions due to electricity generation	0.28307 kg CO2e per kWh

Source: rensmart website, smarterbusiness website

Energy evaluation of alternatives: Environmental Impact

ENVIRONMENTAL IMPACT		
Grams of CO2	Annual CO2 emmissions	
Bulb	0	
Average UK provider	303039852.1	
Savings / year	303039852.1	100%
Savings / guest / night	2399.23	
Savings / property	566429.63	
Saving trees / year	11223698	100%
Saving trees / guest / night	89	
Savings trees / property	20979	

ASSUMPTIONS	
"Bulb annual CO2 emissions for the energy you use at home are zero"	100% renewable energy

Source: Bulb Carbon tracker